EPA Comments on the Delaware
Draft Phase I Watershed Implementation Plan

This document provides the Delaware Department of Natural Resources and Environmental Control (DNREC) with the results of the U.S. Environmental Protection Agency's (EPA) evaluation of Delaware's draft Phase I Watershed Implementation Plan (WIP). It expands upon the conference call between DNREC and EPA staff on September 21, 2010 and the letter and WIP Evaluation Fact Sheet that Regional Administrator Shawn Garvin sent to Secretary O'Mara on September 24 . It also describes in more detail EPA's key areas of concern and ways Delaware can improve the Phase I WIP. It is anticipated that this information, coupled with subsequent meetings and calls among EPA and DNREC staff, will provide sufficient detail for Delaware to improve its final Phase I WIP due to EPA no later than November 29, 2010, and the Phase II WIP in 2011. EPA looks forward to meeting with DNREC to continue this dialogue on September 30 and to the review of revised WIP scenario runs starting as early as this week.

Section I. Overview of the Draft phase I Watershed Implementation Plan (WIP)

We commend Delaware for submitting a draft Phase I WIP on September 1. The level of effort invested to incorporate multiple sector workgroups' input into one document on schedule is evident. We found Delaware's format of analyzing each identified sector against the eight elements provided in EPA's April 2, 2010 *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans* to be clear and easy to understand. The WIP includes some informative discussions of implementation options and thoughtful discussions to account for growth. With the following comments, we seek to assist Delaware with the completion of a final Phase I WIP and a Phase II WIP that clearly articulate plans to meet the expectations we explained in our November 4, 2010 letter and subsequent communications.

When reviewing each of the seven Bay jurisdictions' draft WIP submissions, EPA evaluated whether the allocations assigned by the jurisdiction met the July 1 and August 13 nutrient and sediment allocations; whether the jurisdiction provided assurance that the strategies outlined in the WIP will achieve and maintain the wasteload and load allocations; and whether there is sufficient information for permit writers to develop permits that meet the wasteload allocation in the TMDL. These are three critical areas each jurisdiction's WIP must address.

Starting with the numbers, the WIP input deck that Delaware submitted to EPA on September 1, 2010, exceeds the statewide nitrogen and phosphorus allocations that EPA announced on July 1, 2010, by 17% and 8%, respectively. The WIP input deck did achieve sediment loads that were 20% below the upper end of the sediment allocation range provided on August 13, 2010.

Shifting to the gap-filling strategies, the draft WIP provides insufficient assurance that 2017 and 2025 load reduction goals will be met. EPA found the greatest deficiencies in the near-term strategies for implementation by 2017 to reduce nutrient and sediment loads from agriculture and urban stormwater. Gap-filling proposals should address key needs related to permit-writing and reviews; compliance assurance and enforcement; administration of new programs; and technical

assistance. The WIP includes only short summaries of possible contingencies, asserting that options not chosen from the menu of strategy options would be possible contingencies. These and other issues are addressed in greater detail below, along with recommended improvements that will help to provide assurance that load reduction targets will be met on schedule.

Because the draft Phase I WIP did not meet the July 1 nutrient allocations or provide adequate assurance that reductions could be achieved and maintained through proposed gap-filling strategies, EPA issued a draft TMDL on September 24 that includes high level backstop allocations for point sources. Given that agricultural nonpoint source loads far exceed point sources of nutrients delivered to the Bay, EPA made additional agricultural nonpoint source reductions within the proposed TMDL and will provide reasonable assurance that programs are in place to achieve these reductions and/or adopt additional federal backstop actions, as necessary. EPA will consider removing or reducing the high level backstop allocations in the proposed TMDL based on our review that the final Phase I WIP addresses the deficiencies discussed in this document. These backstop allocations and other federal actions are further described in Sections III and IV.

Section II: Addressing Sector Area Concerns & Opportunities for Improvement

Agriculture: Serious Deficiencies in Gap-Filling Strategies

The WIP has several strengths, including its focus on practices that greatly reduce nutrient and sediment loads, such as the Nutrient Relocation Program and possible phosphorus application restrictions on soils with high phosphorus levels. It also includes some ideas for improving cost-share programs.

EPA expects more specific information on gap-filling strategies for the agriculture sector if it is to remove or relax the high level backstop allocations proposed in the draft TMDL on September 24. The deficiencies that EPA identified in the agriculture section fell within 2 main categories: 1) inadequate information on how the state would enhance programs; and 2) insufficient information on tracking, verification and compliance assurance for existing programs.

The WIP identifies many important details for enhancing programs to achieve additional nutrient and sediment reductions as "TBD." In addition, the WIP document does not adequately explain how Delaware will achieve the substantial increases in implementation rates for practices such as continuous no-till, conservation plans, and poultry waste management that are included in the WIP input deck. Some suggestions for how Delaware might strengthen state programs or authorities to achieve these implementation rates include:

- Revising NMP regulations to include key practices identified in the WIP input deck. EPA recommends that Delaware consider requiring additional measures identified in EPA's *Section 502 Guidance for Federal Land Management in the Chesapeake Bay Watershed* released on May 12, 2010 as a way to achieve additional nutrient and sediment reductions from the agriculture sector; and
- Increased engagement with poultry integrators to find solutions to manure management, with an emphasis on alternative uses of manure beyond application on agricultural lands.

The WIP does not address the numerous NOIs for CAFO permits (EPA estimates that there could be at least 350 in Delaware) and resources needed for developing nutrient management plans. Without this information, EPA lacks information to assess whether Delaware will be able to administer an effective CAFO program. EPA also would like current status on updating the Delaware's CAFO NPDES regulations.

The WIP does a nice job identifying USDA programs, but there is no strategy for integrating USDA programs with state programs. Such integration could help to fill key resource and technical assistance challenges that the state faces without requiring additional state resources. EPA encourages Delaware to work with USDA/NRCS on such a strategy.

EPA appreciates that the WIP discusses improving phosphorus management, including prohibiting the application of manure on soils with high phosphorus levels. EPA is very supportive of efforts to address the phosphorus imbalances in key animal-dominated areas of the Chesapeake Bay watershed and urges that the final WIP include refined plans including a schedule to address this water quality concern.

EPA also expects additional information on verification and compliance assurance. For example, the WIP indicates that all CAFO operations (57 large, 480 medium) will be inspected once every five years, which equates to 107 inspections per year. More detail is needed on how DNREC along with the Delaware Department of Agriculture will complete these inspections, including any additional resources that the state would need to secure to meet these goals. Additionally, EPA expects more information than the money spent on plans and complaint-driven audits to confirm that there is 100% compliance with the nutrient management program. Given the importance of nutrient management toward meeting TMDL allocations, EPA also seeks information regarding how Delaware verifies that nutrients are managed based on recommendations for rate, timing, form and method. EPA suggests that Delaware consider developing a field-based inspection protocol for the nutrient management program. Such a proposal should include sufficient resources for EPA to have assurance that state regulations will, indeed, deliver promised nutrient and sediment controls.

EPA encourages Delaware to consider using its Chesapeake Bay Regulatory and Accountability Program (CBRAP) grant to fill some of the gaps identified in this section. As discussed above, there may be additional opportunities to work with USDA on targeting resources available through the Farm Bill to address the most critical needs.

Urban Stormwater: Serious Deficiencies in Gap-Filling Strategies

The WIP assumes that all nutrient reductions will be attributable to future state and federal stormwater rule-makings. However, the scope, objectives and timing of these rule-makings are neither clear nor guaranteed. For example, the WIP does not indicate whether the revisions are limited to erosion and sediment controls for construction activities, or would apply more broadly to municipal stormwater. EPA expects this information to be provided in the final Phase I WIP in order to have assurance that state programs would achieve nutrient and sediment reductions from urban lands.

If Delaware expects to achieve nutrient and sediment load reductions from existing urban lands, the WIP will need to outline a solid retrofit program. EPA encourages retrofit programs to include strong performance standards, ideally based on achieving stable hydrology in receiving streams. Such an objective would result in nutrient and sediment reductions through implementation of management measures on the ground, as well as stream restorations.

As discussed further in the growth section, EPA appreciates DNREC's efforts in cooperation with the University of Delaware to analyze future growth in the state. In the final WIP, EPA has suggestions for additional information that would provide assurance that stormwater loads from new or redevelopment will be appropriately managed. Specifically, in order to prevent increases in loads from new development in MS4-regulated areas, a strong performance standard must be applied to these discharges. As discussed above, the performance standard is expected to be most effective when based on a volume or flow metric, and formulated as a retention (not detention) standard with the environmental objective of stable hydrologic condition that will also result in nutrient and sediment reductions. More importantly given the small spatial extent of existing MS4 boundaries in Delaware, EPA also expects that a strong performance standard be applied to discharges from new development outside of MS4-regulated areas in order for EPA to have assurance that there will not be increased urban stormwater loads. There are several mechanisms by which this can be achieved, but all programs need to identify and establish a mechanism (state rules, MS4 permit conditions, construction general permit, residual designation authority) to apply appropriate standards to this wider universe of discharges.

In addition to the above, EPA seeks more detailed information on implementation, inspection and compliance and rates for existing stormwater plans and construction sites. In particular, EPA expects Delaware to provide evidence that 100% of construction sites are in compliance, as stated in the WIP.

Finally, more detailed information is needed on Delaware's proposed approach for turfgrass fertilizer restrictions, which could be considered as a contingency in the final WIP.

Wastewater: Some Deficiencies in Gap-Filling Strategies

There are several key areas for improvement and opportunities for strengthening the Phase I WIP for the wastewater sector. The WIP identifies insufficient resources and staff for wastewater treatment plant permit writing and review, as well as administration of the onsite treatment system program. However, the WIP contains no strategy to fill this gap. EPA expects Delaware to include this strategy and consider whether grants, including the Chesapeake Bay Regulatory and Accountability (CBRAP) grant, could assist in filling this gap. This information will provide assurance to EPA that nutrient and sediment allocations from the wastewater sector can be achieved and maintained.

Please confirm in writing, as you did verbally on September 21, that only 4 significant and 2 non-significant wastewater treatment plants should be listed in the TMDL. EPA is emphasizing this point because any wastewater treatment plant, including small flow facilities, that discharges nutrients and/or sediment must be identified in the WIP/TMDL in order for those facilities to

receive an allocation through their NPDES permit. Dischargers of those pollutants would receive a "0" (zero) wasteload allocation if not included in WIP. In that case, to obtain an NPDES permit for such a discharge, EPA expects that the NPDES permit would have requirements that demonstrated that the discharge of the pollutant(s) of concern fully offset.

Growth: Some Deficiencies in Gap-Filling Strategies

EPA applauds DNREC's work with the University of Delaware to identify areas that will likely experience new development or redevelopment between now and 2025. EPA also appreciates Delaware's process for reaching out to counties, municipalities and development groups to identify when and how anticipated growth will occur.

There are several key areas for improvement and opportunities for strengthening the growth section in the Phase I WIP. Specifically, EPA expects more detail on stormwater offsets and baselines for generating credits in order to accept Delaware's offset proposal as a credible trading program. Further, given that onsite septic systems are a growing sector, EPA suggests further explanations in the WIP as to what mechanism will be used to offset any nitrogen increases. Finally, Delaware proposes to set aside additional loads from wastewater treatment plants for future growth. However, the draft TMDL allocations include "0" allocation for future growth because Delaware does not make or allocate enough reductions from existing sources to accommodate this growth. As stated in the November 4, 2009 letter to the Chesapeake Bay Program Principals' Staff Committee and the April 2, 2010 *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans*, the sum of wasteload and load allocations for existing and future sources must equal the nutrient and sediment allocation announced July 1 and August 13, 2010.

Section III: Backstop Allocations

EPA is issuing a draft TMDL that includes high level backstop allocations for point and nonpoint sources in Delaware that will remain in place if EPA does not determine that the final Phase I WIP is adequate and appropriate. These allocations meet nutrient and sediment allocations announced July 1 and August 13 and will affect NPDES permit conditions if they are finalized. EPA strongly prefers that Delaware address the deficiencies listed above in its final Phase I WIP due by no later than November 29 so that EPA may remove or relax these allocations in the final TMDL established in December 2010.

These high level backstop allocations for Delaware sources assume:

- Significant Municipal WWTPs: limit of technology (3 mg/L TN and .1 mg/L TP) and design flow for significant municipal plants
- Significant Industrial Plants (e.g., Invista Plant): EPA calculated the percent reduction in significant municipal wastewater treatment plant loads from Delaware's WIP input deck to the limit of technology treatment (3 mg/l nitrogen and 0.1 mg/l phosphorus). In

Delaware, these calculations equaled a 60% reduction in nitrogen and a 95% reduction in phosphorus. EPA then applied the 60% nitrogen reduction to the significant industrial wastewater treatment plant loads included in the WIP input deck to determine an equivalent "high level backstop allocation" load for the Invista plant. EPA did not apply the 95% phosphorus reduction to the Invista plant because, according to Delaware's WIP, Invista does not discharge phosphorus to surface waters in the Bay watershed.

- MS4s: 50% of urban MS4 lands meet aggressive performance standard through retrofit/ redevelopment; 50% of unregulated land treated as regulated, so that 25% of unregulated land meets aggressive performance standard; designation as necessary.
- Construction: Erosion and sediment control on all lands subject to Construction General Permit.
- CAFO production areas: Waste management, barnyard runoff control, mortality composting. Precision feed management for all animals. Based on the assumptions that currently unregulated AFO sources will be regulated under the NPDES permit program thru appropriate residual designation/rulemaking/permits; and (2) the projected load reductions (based on NPDES effluent controls consistent with the WLA) will result in those needed reductions, the backstop allocation includes the assumption that the same standards are assumed to apply to AFOs not subject to CAFO permits except no feed management on dairies; designation as necessary.
- Additional load reductions from agricultural nonpoint sources to meet the July 1 nutrient allocations.

Section IV: Other Federal Backstop Actions

Pursuant to the December 29, 2009 letter from Regional Administrator Shawn Garvin to the Chesapeake Bay Principals' Staff Committee, EPA may consider applying other federal backstop actions in addition to those listed in Section III to ensure that jurisdictions develop and implement sufficient WIPs and achieve nutrient and sediment load reductions as evidenced through two-year milestones.

Section V: Other Suggested Improvements/Final Comments

In its June 11, 2010 letter to the Principals Staff Committee, EPA indicated that it would include for each jurisdiction a separate Temporary Reserve for both nitrogen and phosphorus for the purposes of WIP development and incorporating contingency actions. The Temporary Reserve is based on possible changes to nitrogen and phosphorus allocations that could result from two forthcoming model refinements to Phase 5.3 of the Chesapeake Bay Program Watershed Model.

In his July 1 letter to the Principals Staff Committee communicating the major basin and jurisdiction nutrient allocations, EPA Regional Administrator Shawn Garvin announced that this reserve would be 5%. The Regional Administrator explained in that letter that the Agency expects jurisdictions to account for this 5% Temporary Reserve as an element of their contingency actions in their Phase I WIPs, in the event that the 2011 refinements to the Phase 5.3 Chesapeake Bay Watershed Model result in draft allocations lower than those provided on July

1, 2010. EPA expects Delaware to incorporate this 5% Temporary Reserve into the final Phase I WIP. Depending on the results of the 2011 model refinements, the Temporary Reserve will be revised or removed as appropriate during the 2011 Phase II WIP development process.

EPA also expects the final WIP to identify the load reductions that Delaware will achieve in each of its major basins every two years, starting in 2011. As stated in EPA's November 4, 2009 letter to the Chesapeake Bay Program Principals' Staff Committee and the April 2, 2010 *Guide for EPA's Evaluation of Phase I Watershed Implementation Plans*, this schedule is necessary for EPA to assess whether 2-year milestones are on pace to achieve the 2017 and 2025 goals. If this information is not provided, EPA will assume constant, linear nutrient and sediment reductions between 2009, 2017 and 2025, and will assess two-year milestone commitments and progress accordingly.

Additional suggestions may be provided to Delaware at the upcoming meeting with EPA.

Section VI: Closing

Thank you again for Delaware's submission of the draft WIP on September 1, 2010. We appreciate Delaware's interest in working with EPA to address these deficiencies in advance of the final WIP submission and TMDL. EPA will be meeting with colleagues from the state on September 30, 2010 to further explain this feedback and to share ideas for strengthening the final Phase I WIP, due no later than November 29, 2010, and the Phase II WIPs that will be submitted in 2011. We stand ready to review modified WIP scenario runs even as early as this week.